DOCUMENT RESUME

ED 357 226 CE 063 629

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TITLE Distance Learners' Approaches to Studying: The Nature of "Deep" and "Surface" Approaches Reconsidered.
PUB DATE Nov 92
NOTE 12p.; Paper presented at the World Conference of the International Council for Distance Education (16th, Bangkok, Thailand, November 8-13, 1992).
PUB TYPE Speeches/Conference Papers (150) -- Reports - Research/Technical (143)

EDRS PRICE MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS *Cognitive Style; *Distance Education; Foreign Countries; Learning Motivation; *Learning Processes; Memory; Postsecondary Education; *Student Motivation; *Study Habits
IDENTIFIERS University of Southern Queensland (Australia)

ABSTRACT

"Deep" approaches to learning, as defined by Biggs (1987) and others, would generally mean that a student is interested in the academic task, searches for meaning in the task, personalizes the task, integrates aspects of the task into a whole, sees relationships between this whole and previous knowledge, and tries to theorize about the task. A student who adopts a "surface" approach, on the other hand, sees the task as a demand to be met to reach some other goal, sees the aspects of the task as discrete, is worried about the time the task is taking, avoids personal meanings in the task, and relies on memorization. The construct of "deep" and "surface" approaches to study was studied using a sample of 1,843 distance education students at the University of Southern Queensland, Australia. The research was part of a broader study that used a modified version of the Distance Education Students' Progress Questionnaire (DESP). The results of the study indicate that students are memorizing within a deep approach, a construct that had been considered at odds in earlier research. The study also noted the absence of "questioning" from the deep approach subscale, asking how deep learning can exist in the absence of such questioning. The study points to a somewhat different meaning of "deep approaches" than has previously been perceived. The findings give rise to questions and potential concerns about the curriculum, teaching methods, and assessment regimes experienced by these students and the nature of the distance learning context and how this context is construed by distance learners. (Contains 13 references.) (KC)

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DISTANCE LEARNERS' APPROACHES TO STUDYING: THE NATURE OF 'DEEP' AND 'SURFACE' APPROACHES RECONSIDERED

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16th World Conference

Bangkok, 8 - 13 November, 1992

CE063629

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Introduction: defining 'deep approaches'

The construct of deep and surface approaches to learning is familiar to many distance educators, having found a small but significant home in distance education literature (for example, Morgan, Gibbs and Taylor 1980; Holmberg 1986; Kember and Harper 1986; Kember and Gow 1989; Kember, Lai, Murphy, Shaw and Yuen 1990). However a brief review of the construct and its background will help place the study reported in this paper in its historical context. Such a review is also essential since this study is concerned with the nature of deep approaches to learning as defined by its principle theorists. We will do no more here than present the definitions of deep and surface approaches according to (i) Marton and Säljö, (ii) Entwistle and Ramsden, and (iii) Biggs.

(i) Marton and Säljö's pioneering studies of student approaches to learning, based on an examination of how students approached the processing of given pieces of written text, led them to define two fundamental ways in which students set about learning:

> The first way of setting about the learning task was characterized by a blind, spasmodic effort to memorize the text; these learners seemed, metaphorically speaking, to see themselves as empty vessels, more or less, to be filled with the words on the pages. In the second case, the students tried to understand the message by looking for relations between the text and its underlying structure. These learners seemed to have seen themselves as creators of knowledge who have to use their capabilities to make critical judgements, logical conclusions and come up with their own ideas. (Marton and Säljö 1984, 40)

The first way they termed a 'surface level' of processing, the second, a 'deep level' of processing. (Marton and Säljö 1976a, 1976b, 1984.)

(ii) Partly based on Marton and Säljö's work, but also drawing on Pask's learning styles as well as earlier research at Lancaster, the Lancaster Approaches to Studying Inventory (ASI) comprises four scales and 16 subscales. High scores on the 'deep approach' subscale (which forms part of the 'meaning orientation' scale) 'indicate that students are looking for meaning in their studying, interacting creatively with what is being learnt, and linking what they are studying with real life'. High scores on the 'surface approach' subscale (which forms part of the 'reproducing orientation' scale) 'show that students are relying on rote learning' (Ramsden 1983,5).

(iii) Biggs' work is closely related to the work of Marton and Säljö and Entwistle, as Biggs and Entwistle acknowledge (Biggs 1987; Entwistle, Hanley and Hounsell 1979, 372); the description of 'deep level' approaches of Marton and Säljö and Entwistle are congruent with that of Biggs, so that Biggs is no doubt correct in asserting that

> It would be generally agreed that a student who adopts a deep approach:
>
> - is interested in the academic task and derives enjoyment from carrying it out;
> - searches for the meaning inherent in the task (if a prose passage, the intention of the author);
> - personalizes the task, making it meaningful to own experience and to the real world;
> - integrates aspects or parts of task into a whole (for instance, relates evidence to a conclusion),

sees relationships between this whole and previous knowledge; and

- tries to theorize about the task, forms hypothesis.

And, a student who adopts a surface approach:

- sees the task as a demand to be met, a necessary imposition if some other goal is to be reached (a qualification for instance);

- sees the aspects or parts of the task as discrete and unrelated either to each other or to other tasks;

- is worried about the time the task is taking;

- avoids personal or other meanings the task may have; and

- relies on memorization, attempting to reproduce the surface aspects of the task (the words used, for example, or a diagram or mnemonic).

(Biggs 1987)

This brief outline of what has come to be accepted as deep and surface approaches forms the conceptual context of the present study, which, while based on the A[illegible], uses the terms 'deep' and 'surface' in ways that are quite congruent with those described above; when this paper discusses the 'deep approach' subscale of the ASI, it is in fact

addressing the nature of deep approaches as understood by the major theorists in this field. Since this understanding has also been adopted by a growing number of educationally informed teachers in higher education, this study is of some practical as well as theoretical interest.

Methodology

This study examined the construct of deep and surface approaches based on a sample of 1843 distance students at the University of Southern Queensland, Australia. The study was part of a broader study which utilized a modified version of the Distance Education Students' Progress Questionnaire. Elsewhere we describe the process of validating the DESP and how the meaning of its constructs and the relationships between these constructs were identified through factor analysis (Lai, Cottman and Joughin 1992). This paper, however, focuses solely on that part of the DESP which is concerned with the construct of deep approaches to learning. Since the modified DESP included the items from four of the ASI's subscales - namely deep approach, surface approach, intrinsic motivation and extrinsic motivation - a first-order factor analysis allowed a re-examination of these subscales. (Most studies of student approaches to learning have reported only second-order factor analyses which have, on the whole, supported the factorial structures of the ASI and SPQ reported by Ramsden, Entwistle, Biggs and others.)

Findings

The first-order factor analysis resulted in some interesting findings: with respect to the ASI items, the subscales generated in our study are similar but not identical to those reported by Entwistle and Ramsden (Entwistle and Ramsden 1983, 228-233):

* The extrinsic motivation and surface approach subscales are unaltered.

* The 'intrinsic' subscale of our study contains the four items of the ASI subscale. However, it varies from the ASI subscale in two respects. Firstly, it includes two items from the ASI's intrinsic motivation subscale, negatively loaded ('I suppose I am more interested in the qualifications I'll get than in the course I'm taking' and 'I generally choose what I study more from the way it fits in with career plans than from my own interests.). This is not a surprising result - it simply indicates that intrinsic motivation and extrinsic motivation are partially bipolar constructs. Secondly, it includes one item from the ASI's deep approach subscale ('When I'm tackling a new topic, I often ask myself questions about it which the new information should answer). Again, this is not surprising - it is simply indicative of the expected association between intrinsic motivation and deep approaches which is emerges in the second order factor analysis.

* The 'deep approach' subscale that emerged from our study is similar to that of the ASI subscale but with two significant variations. For the purpose of the ensuing discussion, the ASI deep approaches items are listed below in Table 1, while Table 2 lists the deep approach items from the present study.

Table 1. Deep Approach Subscale (ASI) (Cronback Alpha = 0.56)

DA1 I generally put a lot of effort into trying to understand things which initially seem difficult

DA2 I often find myself questioning things that I hear in lectures or read in books

DA3 I usually set out to understand thoroughly the meaning of what I am asked to read

DA4 When I'm tackling a new topic, I often ask myself questions about it which the new information should answer

Table 2. Deep Approach Subscale (present study) (Cronback Alpha = 0.6164)

1. I usually set out to understand thoroughly the meaning of what I'm asked to read.	.60452
2. I generally put a lot of effort into trying to understand things which seem difficult at first.	.50703
3. I usually don't have time to think about the implications of what I have read.	-.46864
4. When I'm tackling a new topic, I often ask myself questions about it which the new information should answer.	.42559
5. When I am reading I try to memorise important facts which may come in useful later.	.34401
6. Often I find I have read things without having a chance to really understand them.	-.35804

The following points are noted with respect to the deep approach subscale of the present study (Table 2):

· Items 1, 2 and 4 in Table 2 are usually associated with the deep approach subscale of the ASI - their presence and their loadings indicate the similarities between the subscales and justifies our retention of the term 'deep approach' to characterize this subscale.

· Items 3 and 6 are from the ASI's surface approach subscale and are negatively loaded on our subscale. This is an interesting finding - while Marton (1983) sees deep and surface approaches as being at opposite ends of a continuum, i.e. as bipolar, Biggs sees them as quite independent ways of approaching learning (Biggs 1987, 15). Our results indicate a degree of bipolarity.

· Item 5 is derived from the ASI's surface approach subscale and its association in the present study with the deep approach is of particular interest. It is discussed separately below.

· Of equal interest is the item from the ASI deep approach subscale which is 'missing' from our results: 'I often find myself questioning things that I hear in lectures or read in books.' This is also discussed separately below.

Deep approaches to learning and the role of memorisation

Until recently, the processes of seeking understanding and of memorising have been considered as incompatible, if not contradictory. Biggs' comment that 'it is ... difficult to see how one could simultaneously rote learn and seek meaning' (though these strategies could be deployed successively) exemplifies this. How then are we to make sense of our finding which associates memorisation with deep approaches?

Our results indicate that students are memorising within a deep approach. To borrow Ramsden's depiction of deep approaches as leading to 'high quality, well-structured, complex outcomes' (Ramsden 1992, 21), we assume that quality, structure and complexity logically precede memorisation. Biggs has recently discussed the role of rote learning of *already understood* information for the purpose of accurate recall in, for example, an examination and refers to Tang's observation of a 'deep memorizing' approach (Biggs, in press). Our study provides clear empirical evidence of such an approach.

Deep approaches to learning and the role of questioning

The absence of the 'questioning' item from our deep approach subscale raises some important questions about the nature of deep approaches. We suggest that this item in the ASI refers to a sort of questioning which critically evaluates new ideas and information in relation to external factors rather than in terms of internal consistency or internal meaning. It is questioning in the context of a student's perception of external reality. In terms of Marton and Säljö's work on student conceptions of learning (Ramsden 1992, 26), such questioning is an important element of those preferred perceptions of learning that involve relating subject matter to the real world and understanding reality in a new way. Our results lead us to wonder how deep can learning be in the absence of such questioning.

Construct validity and the contextual nature of student approaches

'Factor analysis can be conceived as a construct validity tool (which) enables the researcher to study the constitutive meaning of constructs - and hence their construct validity' (Kerlinger 198.., 590). This study is essentially a study of the constitutive meaning of the construct, 'deep approaches to student learning' and it allows us to see

the meaning of 'deep approaches' in a somewhat different way to that in which it has previously been perceived. This is not surprising - it is of the nature of educational constructs in general and of those based on factor analysis in particular. As Ramsden has commented,

> the precise description of surface and deep approaches differ from task to task, and so from subject area to subject area, just as learning outcomes in different subjects obviously vary. But the approaches have enough in common across different tasks to allow us to speak confidently about the universal relevance of the dichotomy' (Ramsden 1992, 82).

Or as Biggs notes,

> it is ... not possible to say what "the" deep approach is, beyond the fact that it is founded in intrinsic interest in that particular task. ... What (the terms "deep" and "surface" specifically mean in any instance depends on the context, the task, and the individual's encoding of both. (Biggs in press)

So while the results of our study lead us to reconsider the nature of deep approaches to learning, they must equally lead us to reflect on the context which has given rise to the approaches adopted by the students in our sample. It is well beyond the scope of this study to analyse the teaching context of our students. The study however does give rise to questions (and potential concerns) about the curriculum, teaching methods and assessment regimes experienced by these students. In the context of distance education, additional questions arise concerning the nature of the distance learning context and how this context is construed by distance learners.

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